

USER'S MANUAL (IFU)

DIGITAL HOME UPS 250VA/12V

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Salient features

- ◆ Micro controller based technology using MOSFETs
- ◆ Fuzzy logic control - a unique & advanced technology
- ◆ Smart overload sense and short circuit protection
- ◆ Automatic low battery cutout
- ◆ PWM controlled efficient fast charging
- ◆ Great power saving
- ◆ User-friendly LED indication

GLOBAL CERTIFICATIONS:

ISO 9001 : 2000
ISO 14001:2004

R&D
Recognised
by
MINISTRY OF SCIENCE & TECHNOLOGY
GOVERNMENT OF INDIA

Before connecting, operating, or adjusting this unit, please read this instruction booklet carefully .

Customer Care : +91 124 4170561-566

Dear Customer,

Congratulations for choosing Su-Kam Digital Home UPS! This Digital Home UPS has been developed using state-of-the-art Micro controller based technology.

Some of the distinguishing features of the Su-Kam Digital Home UPS :

◆ Micro controller based technology using MOSFETs	◆ PWM controlled efficient fast charging
◆ Fuzzy logic control-a unique & advanced technology	◆ Great power saving
◆ Smart overload sense and short circuit protection	◆ User-friendly LED indication
◆ Automatic low battery cutout	

This manual will help you to better understand your Digital Home UPS , increase your convenience in using it and maximize its benefits for you..

Feel free to contact our authorized dealer or us at **info@su-kam.com** or visit our website **www.su-kam.com** anytime for any clarification or more information. We value your suggestions and comments. Su-Kam is committed to continual product improvement and feel the best way to accomplish this task is by listening our valued customers. This commitment gets strengthened every time you buy a Su-Kam product.

We appreciate the support you have shown us through the purchase of our product. Please read this manual to become familiar with its features and various applications.

**Regards,
Su-Kam Power Systems Limited**

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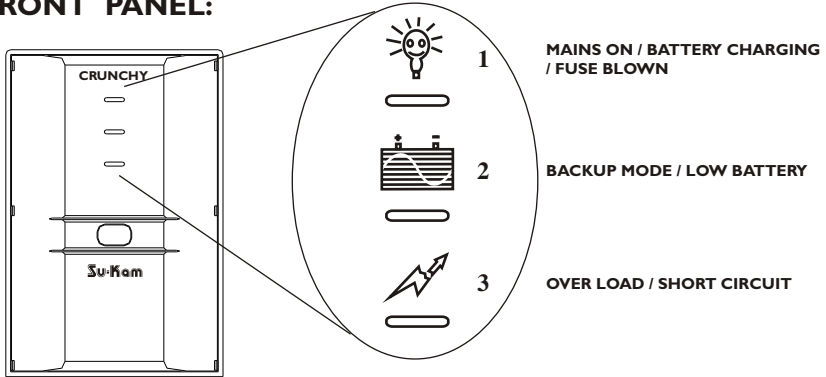
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KNOWING YOUR HOME UPS

Now lets begin the journey to explore various aspect of your Su-Kam Digital Home UPS. Welcome aboard!

In its most basic form, an Home UPS transforms Direct Current (DC) to Alternating Current (AC).The battery bank with the Home UPS acts as a reservoir to ensure continuous supply of power whenever mains supply from utility power is not available.

FRONT PANEL:



LED Indications:

LED	CONTINUOUSLY ON	BLINKING	
		SLOW	FAST
1	Incoming Mains available Battery Charged	Incoming Mains available Battery Charging	Mains Fuse Blown (Load exceeds specified limit of Home UPS)
2	Incoming Mains Fail Backup Mode	Low Battery (Home UPS will shut down automatically after few minutes)	—
3	Overload	—	Short Circuit

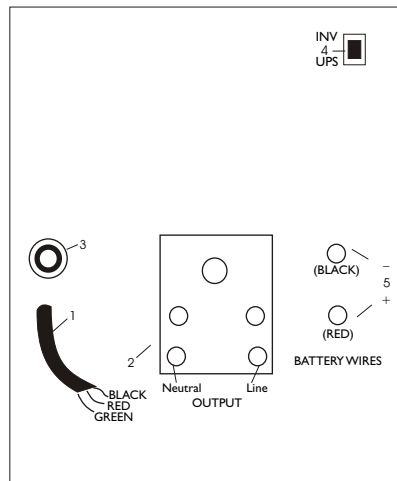
BACK PANEL:

The Digital Home UPS has two battery wires coming out from the rear side, a Fuse holder, 1 toggle switch, an output Socket and an input mains or 3 way cable .We connect the two battery wires to the terminals of the battery, the red colored to positive terminal and the black colored to the negative. A three core input cable has to be used to connect the home UPS to incoming AC Mains. Ensure that incoming phase (or line) is connected to line (Red wire) neutral is connected to neutral (Black Wire) and earth is connected to earth (Green Wire). After this the output is connected through the output socket at the rear of the Home UPS.

Note : 1. Position the Toggle Switch(4) at the rear panel of the Home UPS to Narrow window (UPS) mode if you want to run PC load otherwise always place the switch to WideWindow(INV) mode.

REAR VIEW:

1. 3 Core Input Wire (Mains Input for Home UPS).
2. 6A AC Output Socket.
3. F2.5A/250V (Fast Blow) Mains Input Fuse
4. Toggle Switch Narrow Window(UPS) / Wide Window (INV) mode.
5. Battery Wires 3 Sq.mm



IMPORTANT SAFETY INSTRUCTIONS

Before proceeding further kindly go through the safety instructions carefully.

General Precautions:

1. Before using the Home UPS read all instructions and cautionary markings on the Home UPS, the Batteries, all appropriate section of this instruction manual.
2. Do not expose Home UPS to rain, liquids of any type. The Home UPS is designed for interiors only.
3. Do not disassemble the Home UPS, take it to a Su-Kam Engineering Service Centre when service or repair is required. Opening by unqualified personnel entails electric shock or fire hazard.
4. To reduce risk of electric shock, disconnect all wiring before cleaning.

5. Warning-Risk of Explosive gases

WORKING IN THE VICINITY OF A LEAD ACID BATTERY MAY BE DANGEROUS. BATTERIES GENERATE EXPLOSIVE GASES DURING NORMAL OPERATION.

Provide ventilation to outdoors from the Battery compartment.

6. Do not cover your Home UPS with any cover or cloth.
7. Do not install this Home UPS on or near flammable materials (plywood, Chemicals, gasoline etc.).
8. Be extra cautious when working with metal tools on and around batteries. It could short-circuit the batteries or other electrical parts, producing a spark that could cause an explosion.
9. Remove conductive jewelry such as rings, bracelets, necklaces, and watches when working with a battery. A battery can produce a short-circuit current high enough to weld a ring or causing severe burns.

IMPORTANT PRECAUTIONS:

The output side of the Home UPS AC wiring should never be connected to a generator or incoming utility power. This condition is far worse than a short circuit. If the unit survives this condition, it will shut down until correction is made.

Note : Never disconnect the battery cables while the Home UPS is delivering power or battery charger is operating. The Power Active Switch has no effect on the charger; it turns off only the power output during backup mode. To disconnect the batteries for service:

- (a) turn off the power switch.
- (b) disconnect all AC power.
- (c) disconnect all the battery cables.

Special Notices:

- **Do not connect** heavy load like Refrigerator, Motor, Cooler, etc with Home UPS.
- Avoid connecting the stabilizer between utility power and Home UPS. The AVR of stabilizer may cause your computer to reboot.
- We recommend that you have point to point wiring of the Home UPS.
- **GROUNDING INSTRUCTIONS:** This Home UPS must be connected to a grounded, permanent wiring system.

TROUBLE SHOOTING

Symptoms	Rectifications
Main Power is coming. Home UPS shows mains fuse blown on its display panel	Reduce the load and replace the glass fuse of specified rating given at the rear side of the Home UPS.
No Power during backup mode	Check if low battery LED is glowing, switch OFF the Home UPS by power active switch. Allow the battery to charge before running the Home UPS on battery again.
	Check if overload/short circuit LED is glowing. Reduce load and reset the Home UPS by Power Active switch.
Home UPS does not operate	Check the battery connections.
Home UPS trips frequently at back up mode	Reduce the load and restart the Home UPS through the power active switch.

Symptoms	Problem	Remedy
There is no output power	Low Battery	Check condition of batteries & recharge
	Loose or corroded battery connections	Check and clean all connections
	Loose AC output connections	Check all AC output connections
System shut down after 20 sec, no display	Output of Home UPS is wired back to its own input	Check the proper AC input and output wiring
Low/High AC output voltage	Measuring with the wrong voltmeter	Meter must be a true RMS reading meter
Low surge power	Weak batteries or battery cables too long	Refer to cable and battery recommendations in this manual

TECHNICAL SPECIFICATIONS

MODEL	CRUNCHY
CAPACITY	250VA/12V

VOLTAGE LIMITS (NARROW WINDOW-UPS MODE)

Mains A.C. Low Cut	185 ± 5V
Mains A.C. Low Cut Recovery	190 ± 5V
Mains A.C. High Cut	265 ± 5V
Mains A.C. High Cut Recovery	260 ± 5V

VOLTAGE LIMITS (WIDE WINDOW-INV MODE)

Mains A.C. Low Cut	105 ± 5V
Mains A.C. Low Cut Recovery	120 ± 5V
Mains A.C. High Cut	285 ± 5V
Mains A.C. High Cut Recovery	270 ± 5V

OUTPUT PARAMETER

Mains Output Frequency	Same as Input (45Hz-55Hz)
Output Frequency	50.0 Hz. ± 0.1 Hz
Output Voltage with Full Load	220V/200V ± 10V
Overload	Above 110%
Short Circuit Protection	>250% Load (Few msec)

BATTERY CHARGING

Microcontroller based Controlled Triac charging with Soft start over full range of mains 130V to 290V	
Maximum Charging Current Limit	4.0 ± 1.0 Amp
Charging Boost Voltage	13.9V ± 0.2V
Charging Float Voltage	13.6V ± 0.2V
Battery Lower Voltage Limit	10.2V ± 0.2V
Recommended Battery Capacity	45AH-65AH/12V
Number of Batteries	1

TECHNOLOGY

Microcontroller based state-of-the-art technology using MOSFETs
Fuzzy Logic Control Technology

ENVIRONMENT

Storage Temp.	0-50°C
Operating Temp.	0-40°C
Humidity	0-90% Non-condensing

Dimension (W X D X H) in mm	135 X 205 X 210
Weight (Kg)	5.1 Kg

Note: Specifications subject to change without prior Notice

REV. 18-07-07

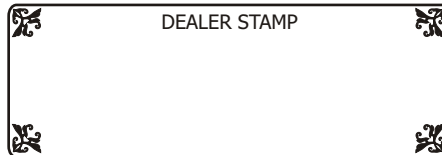
*Technical
Specifications*

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WARRANTY CARD

- ★ **SU-KAM POWER SYSTEMS LIMITED** warrant to the original purchaser provided the product is still in possession of and used by the original purchaser from the date of purchase.
- ★ The warranty stands on all parts (except LED's, switches and external body) for a period of **1 year**.
- ★ The warranty will not apply to defects arising in company's opinion by reasons of accident, abuse, misuse, neglect, improper installation (if not undertaken by the company or its representative), fire, flood, or other act of GOD and any other natural calamities and any other unauthorized repairs done or carried out will have to be borne by the purchaser. The problem of fuse blown will not be included in the warranty of the product. The services given for the same will be paid service.
- ★ The company in no way will be held liable for any loss or injury or damage caused to life or property or death and disability caused to any form of life for any reason whatsoever.
- ★ All disputes are subject to jurisdiction of Delhi only.

Model No. : _____
Serial No. : _____
Name of Purchaser : _____
Address : _____
Date of Purchase : _____
Dealer's Name : _____



SU-KAM OFFICES ADDRESSES

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